

REMARKS

Claims 1-3, 5, 7, 9, 11-29 and 31-33 remain pending in the present application. Of these claims 1-3, 5, 7, 9, 11-29 and 31-33 have been rejected. Claims 1, 29, 31-33 are the independent claims. Reconsideration of the application in light of the following remarks is respectfully requested.

Applicant would like respectfully to point out an error in the Office Action summary. In paragraphs 4 and 6, it is indicated that claims 1-3, 5, 7, 9, 11-29 and 31 are pending and rejected. However, as indicated in page 6 of applicant's September 17, 2007 Appeal Brief, claims 1-3, 5, 7, 9, 11-23, 25-29 and 31-33 are the claims that are still pending.

As discussed previously, Applicant's invention, as recited by present claims 1-3, 5, 7, 9, 11-23, 25-29, and 31-34, as amended, provides a nonwoven, fibrous mat comprising a blend of a major portion composed of chopped glass fibers having an average fiber diameter of about $11 \pm 1.5 \mu\text{m}$ and a minor portion composed of fine staple fibers having an average fiber diameter of less than about $5.5 \mu\text{m}$. The minor portion is composed of glass or mineral fibers and comprises about 1-30 percent of the dry weight of the web. Also provided is a gypsum board faced with such a mat. In various embodiments, the gypsum board exhibits a combination of desirable structural and functional features that render it fire resistant and easily painted or otherwise given an aesthetically pleasing finish after installation with a

minimum of surface preparation required. The mat has a high permeability, permitting easy extraction of excess water ordinarily present during slurry-based manufacture of gypsum or other hydraulic set board. Surprisingly and unexpectedly, gypsum board faced in accordance with the invention with the present nonwoven glass fiber mat, has a smoother surface than boards made with known mats employing fibers having either larger or smaller average diameter. It is especially surprising and significant that the aforementioned fiber blend results in smoother board than would otherwise be obtained in prior art mats made with fibers having a single average diameter.

Claims 1-3, 5, 7, 9, 11-23, 25-29, and 31-33 were rejected under 35 USC 103(a) as being unpatentable over US Patent 4,647,496 to Lehnert in view of US Patent 5,389,716 to Graves in further view of US Patent 4,637,951 to Gill.

In applicant's previous February 26, 2008 responses it was submitted that Lehnert et al. provides an exterior finishing system for a building, such as a fibrous mat-faced gypsum board having a water resistant, set gypsum core.

In the past, the Examiner has stated that Lehnert teaches a fibrous mat-faced gypsum board comprised of a gypsum core that is sandwiched between two sheets of glass mat. It has been further alleged that Lehnert teaches glass fibrous mat made from chopped fiber in a resinous binding, such as modified urea-formaldehyde.

In response, applicant had observed that Lehnert calls for facers that are porous glass fiber mats. See, e.g., col. 4, line 57. In addition, Lehnert discloses gypsum that penetrates "but part-way into the thickness of the mat" of one board face (col. 4, lines 59-60) and "substantially through the thickness of the mat" at the other face (col. 5, lines 5-6 and 24-31). It is said to be necessary for the mats to be permeable to allow the high water content of the gypsum slurry to be extracted as liquid or vapor during the production and board curing (col. 9, lines 8-16).

The Examiner has in the past admitted that Lehnert does not teach the fiber sizes and compositions of the glass fibrous mats recited by applicant's independent claims 1, 29, 31, 32, and 33. Accordingly, she has cited Graves, which discloses a binder composition for fibrous mats that is said to be fire resistant when cured. The mats are said to be suitable for a backing layer for gypsum.

Previously the Examiner had also further cited Gill et al., which is directed to a fibrous mat facer said to exhibit improved strikethrough resistance. The mat is said to be especially suited as a carrier, substrate, or facer for various curable materials that are placed on one surface of the mat while in a liquid state. Gill et al. further discloses a laminate comprising the foregoing mat and a vinyl plastisol coating or a coating of a foam insulation material such as polyurethane or polyisocyanurate foam.

Applicant, in the previous response, traversed of the Examiner's contention that the combination of Lehnert, Graves, and Gill discloses or suggests the subject matter of

applicant's claims, as well as the propriety of combining the references in the manner proposed.

In support of the traversal, applicant submitted, in part, that the fibrous mat provided by Gill et al. is used for an entirely different purpose than applicant's mat. In particular, the Gill mat is said to be especially useful when forming composite materials employing a curable thermoset, such as a foamable material such as a polyurethane or polyisocyanurate rigid foam board, or as a carrier web in the vinyl flooring industry. In both instances, the mat is said to be "resistant remarkably" to strikethrough. The need for relatively high permeability would lead a skilled artisan away from combining Gill, which does not teach a gypsum or like construction board, and also teaches avoidance of strikethrough, an objective diametrically opposed to the level porosity needed for gypsum board fabrication. It is thus maintained that the Examiner's motivation, in express contradiction to the teaching of Gill, is plainly a hindsight reconstruction based on applicant's own disclosure as a template.

In particular, The Gill mat is differentiated, since it is said to inhibit strikethrough, whereas embodiments of the Lehnert gypsum material require at least some amount of strikethrough to achieve the preferred structure delineated by Lehnert, e.g. at col. 5, lines 24-27. In context, these factors would provide a skilled artisan no basis even to try the Gill mat with a Lehnert gypsum board. Rather, the artisan would instead eschew the Gill mat for making gypsum board, based on Gill's teaching pertaining to inhibited strikethrough.

It was also submitted that were the Gill teaching to be modified to provide a mat having applicant's increased permeability, it would be highly likely not to attain the objective of inhibiting strikethrough. Such a result is submitted to preclude the reconstruction proposed by the Examiner, in view of *In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984). See also *Monarch Knitting Mach. Corp. v. Sulzer Morat GmbH* ["A prior art reference may be considered to teach away when 'a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.'" 139 F.3d 877, 45 USPQ2d 1977, 1984 (Fed. Cir. 1998), quoting *In re Gurley*, 27 F.3d 551, 553, 31 USPQ2d 1130, 1131 (Fed. Cir. 1994).] and *McGinley v. Franklin Sports, Inc.* ["We have noted elsewhere, as a 'useful general rule,' that references that teach away cannot serve to create a prima facie case of obviousness." 262 F.3d 1339, 1354, 60 U.S.P.Q.2d 1001 (Fed. Cir. 2001) (citing *In re Gurley, supra*)].

In response the Examiner, between pages 6 and 7 of the instant Office Action, has stated that, with regard applicant's argument that the mat disclosed by Gill is resistant to strikethrough, that it is not clear how strikethrough is related to be diametrically opposed to the level of porosity needed for gypsum board fabrication. Gill teaches a glass fiber mat that is resistant to strikethrough of various curable polymers. Gill also teaches a glass fiber mat that has controlled porosity and permeability.

Applicant respectfully submits the purpose of producing a mat that is resistant to strikethrough, is diametrically opposite to allowing for the penetration of gypsum “but part-way into the thickness of the mat” of one board face (col. 4, lines 59-60) and “substantially through the thickness of the mat” at the other face (col. 5, lines 5-6 and 24-31), As disclosed by Lehnert at col. 4, lines 59-60; col. 5, lines 5-6 and 24-31.

In fact, Lehnert goes on to disclose that the fibrous mat comprises material which is capable of forming a strong bond with the set gypsum comprising the core of the support surface (col. 9, lines 17-19). The manufacture of the preferred forms of board can be accomplished by controlling the viscosity of the aqueous slurry of the calcined gypsum in a manner such that the slurry penetrates the underlying and overlying mats to the desired degree. In manufacturing each of the preferred forms of board, the viscosity of the slurry should be such that it penetrates the thickness of the overlying mat over the entire surface area thereof (col. 13, lines 5-13).

Applicant respectfully submits that clearly an artisan of ordinary skill would understand that, Gill teaches away from the production of a mat that would require the strikethrough of various components, solving the problem of which is a stated purpose of Gill (Abstract, lines 1-5; col. 1, lines 27-30).

Additionally, it is respectfully submitted that, Lehnert clearly teaches away from the use of any fibrous mat that is designed to resist the strike through of gypsum, which is

required in order to create a fibrous mat-faced gypsum board that is structurally sound enough for use on the exterior of buildings, which is a stated purpose of Lehnert (col. 1, lines 7-18)

Thus, it is respectfully submitted that, Lehnert teaches away from any combination that would seek to use a fibrous mat whose purpose is to limit strikethrough of components as much as possible.

Additionally, applicant believes that this interpretation is further supported by the stated purpose of both Lehnert and Gill. strengthening applicant's argument.

Graves is not seen to remedy the deficiencies of Gill and Lehnert, and the Examiner does not site graves for such. Graves is cited for its relevance to fire resistance.

For at least these reasons, it is submitted that the combination of Lehnert, Graves, and Gill does not disclose or suggest a gypsum or other hydraulic set board having the outstanding combination of structural and functional properties afforded by the gypsum board recited by present claims 1-3, 5, 7, 9, 11-23, and 25-29, the facer of claims 31-32, and the hydraulic set board of claim 33.

Accordingly, reconsideration of the rejection of claims 1-3, 5, 7, 9, 11-23, 25-29, and 31-33 under 35 USC 103(a) as being unpatentable over the combination of Lehnert, Graves, and Gill is respectfully requested.

Claims 18-23 were rejected under 35 USC 103(a) as being unpatentable over Lehnert in view of Graves and Gill and further in view of US Patent 6,723,670 to Kajander et al.,

which is directed to a foam coated nonwoven fibrous mat said to have properties rendering it particularly suited for a facer on gypsum wallboard.

As such, it is respectfully submitted that Kajander is not seen as remedying the deficiencies of Lehnert, Graves, and Gill and is not seen to establish that combination of Lehnert, Graves, Gill, and Kajander et al. discloses or suggests the subject matter of claims 18-23.

Applicant respectfully submits that the subject matter of claim 1 is not disclosed by Lehnert, Graves, and Gill for at least the reasons set forth above. Kajander et al., even in any combination of these references, does not cure this deficiency. Accordingly, claims 18-23, which depend from claim 1, are patentable for at least the same reasons as claim 1.

Accordingly, reconsideration of the rejection of claims 18-22 under 35 USC 103(a) as being obvious over the combination of Lehnert, Graves, Gill, and Kajander et al. is respectfully requested.

Claims 16 and 25-28 were rejected under 35 USC 103(a) as being unpatentable over Lehnert in view of Graves and Gill in further view of US Patent Publication US 2004/0209071 to Carbo et al., which discloses acoustical tiles, also known as acoustical panels, ceiling tiles, or ceiling panels, that are said to inhibit the growth of fungus, bacterial and other micro-organism.

Applicant respectfully submits that Carbo is not seen to remedy the above cited deficiencies of Lehnert, Graves and Gills, and Carbo is not cited as such. Carbo is cited for its relevance to mold resistance.

As such, it is respectfully submitted that, claims 16 and 25-28, which depend from claim 1, are patentable for at least the same reasons as claim 1.

Accordingly, reconsideration of the rejection of claims 16 and 25-28 under 35 USC 103(a) as being obvious over the combination of Lehnert, Graves, Gill, and Carbo et al. is respectfully requested.

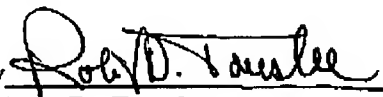
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Docket No.: 7302/ 0140-1CONCLUSION

In view of the foregoing remarks, and the Rule 132 Declaration by Alan M. Jaffee submitted on December 26, 2006, it is respectfully submitted that the present application has been placed in allowable condition. Reconsideration of the rejection of this application and allowance of claims 1-3, 5, 7, 9, 11-23, 25-29, and 31-33, as amended, together with new claim 34, are earnestly solicited.

Respectfully submitted,

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